CARBOHYDRATE RESEARCH, VOL. 186 (1989)

AUTHOR INDEX

ARAD, S., 313
AVALOS, M., c7

BABIANO, R., c7
BANASZEK, A., 156
BAUTISTA, I., c7
BERTOCCHI, C., 141
BHAVANANDAN, V. P., 255
BHIDE, S. V., 131
BOUWSTRA, J. B., 39, 51
DE BRUYN, A., 241

CASIRAGHI, G., 207
CESÀRO, A., 141
CHOWDHARY, M. S., 167
CHRISTIAEN, D., 313
CHRYSTAL, E. J. T., 321
CORNIA, M., 207
CRESCENZI, V., 141

DAVIDSON, E. A., 255
DEFAYE, J., 177
DEROME, A. E., 63, 77
DETTMAN, H., c1
DOBASHI, K., 119
DUBINSKY, O., 313

ESPOSITO, P., 141

FARRARI BELICCHI, M., 207
FERNANDEZ, J. I., c7
FÜGEDI, P., 225
FUJIHARA, M., 119

GADELLE, A., 177
GALBRAITH, L., 287
GASPARRI FAVA, G., 207
GERSTEIN, B. C., 29
GLASER, R., 313
GUNNARSSON, A., 217

HAGIWARA, T., 267
HAINES, A. H., 321
HEDBYS, L., 217
HELPAP, B., 189
HIZUKURI, S., 163
HOLME, K. R., 301

IIJIMA, H., 95, 107
INAGAKI, R., 267
ITO, H., 267

JANS, A. W. H., 241
JASEJA, M., 313
JERKOVICH, G., 225
JIMENEZ, J. L., c7
JOHANSSON, E., 217
JULIANO, B. O., 163

KALE, N. R., 131
KAMATH, N. D., 131
KAMERLING, J. P., 39, 51
KANAO, T., 267
KANTOCI, D., 77
KARPIESIUK, W., 156
KAWAGISHI, H., 267
KEGLEVIĆ, D., 63, 77
KERÉKGYÁRTÓ, J., 39, 51
KÖLL, P., 1
KOPF, J., 1
KORYTNYK, W., 327
KUHL, P. M. D., 287
KUSZMANN, J., 225

LACELLE, S., 29
LAFERRIÈRE, C. A., c1
LARSSON, P.-O., 217
LEITCH, R. A., 275
LIPTÁK, A., 51

MATTA, K. L., 167
MEDGYES, G., 225
MESSENS, E., 241
MIZUNO, T., 267
VAN MONTAGU, M., 241
MOSBACH, K., 217
MOULE, A. L., 287
MURRAY, M. C., 255
MYSZKA, H., 337

NAGUMO, T., 119
NAKAMURA, T., 267
NISHINO, T., 119

OGAWA, T., 95, 107
OXLEY, D., 295

PALACIOS, J. C., C7
PATEL, R., 321
PAULSEN, H., 189
PEDERSEN, C., 177
PERLIN, A. S., 301, 313
PETRIE III, C. R., 327
PLUMET, J., C7

REBOLLEDO, F., C7
REINHOLD, V., 255
RICHARDS, J. C., 275
ROBYT, J. F., 87
ROY, R., C1

SHARMA, M., 327
SHIMURA, K., 267
SIMMONS, O. D., 327
SMIATACZ, Z., 337
SRIKRISHNAN, T., 167
SVENSSON, S., 217

TAKEDA, Y., 163
TANRISEVEN, A., 87
TOPF, C., 1

VLIEGENTHART J. F. G., 39, 51

WILKINSON, S. G., 287, 295

YOKOYAMA, G., 119

ZAMOJSKI, A., 156
ZETTA, L., 207

CARBOHYDRATE RESEARCH, VOL. 186 (1989)

SUBJECT INDEX

2-Acetamido-2-deoxy-β-D-gluco- and -β-D-galacto-pyranoside, and oligosaccharides, methyl, preparation of, 177

6-*O*-(2-Acetamido-2-deoxy-β-D-glucopyranosyl)-*N*-acetylmuramoyl-L-alanyl-D-isoglutamine esters, synthesis and reactions of *O*-acetylated benzyl α-glycosides of, 63

O-(2-Acetamido-2-deoxy-β-D-glucopyranosyl)-(1→6) and 4)-*N*-acetylmuramoyl-L-alanyl-D-isoglutamine, convenient syntheses of, 77

N-Acetylmuramoyl-L-alanyl-D-isoglutamine, convenient syntheses of *O*-(2-acetamido-2-deoxy-β-D-glucopyranosyl)-(1→6 and 4)-, 77

N-Acetylneuraminic acid, synthesis of analogs of, 327

Acyclic *C*-nucleosides, an efficient and regioselective synthesis of, from mesoionic compounds, c7

Agaricus blazei, fruiting bodies of, fractionation and antitumor activity of the water-insoluble residue of, 267

Alditols, 2,6-anhydro-1-deoxy-1-nitro-, crystal structures of, 1

Alpha cyclodextrin, hexahydrate, dynamics of, by ^{1}H solid-state n.m.r. spectroscopy, 29

Amination, reductive modification of sialyl residues by, 255

Amylose–1-butanol complex, separation of starch components based on the adsorption during column chromatography on cellulose of the, 131

Amyloses, structures and amounts of branched molecules in rice, 163

2,6-Anhydro-1-deoxy-1-nitroalditols, crystal structures of, 1

Antitumor activity, of the water-insoluble residue of the fruiting bodies of *Agaricus blazei,* 267

Base-catalysed isoglutamine ⇄ glutamine rearrangement in peptidoglycan-related structures, 63

Benzyl 3-*O*-benzyl-4,6-benzylidene-2-*O*-trifluoromethanesulfonyl-α-D-mannopyranoside, nucleophilic displacement of the triflate group in, 156

Bovine colostrum through lactonization, simple isolation of α-D-Neu*p*5Ac-(2→3)-D-Gal*p*-(1→4)-D-Glc*p*(G_{M3}OS) from, c1

Branched molecules in rice amyloses, structures and amounts of, 163

Capsular polysaccharide of *Streptococcus pneumoniae* type 9V, synthesis of tetrasaccharide component of repeating unit of, 177

Chemical modification of 1-(3,4-di-*O*-acetyl-2-deoxy-2-hydroxyimino-α- and -β-D-*erythro*-pentopyranosyl)pyrazole at C-2 and C-3, 337

Chondroitin 4- and 6-sulfates, n.m.r. spectra of, 301

CMP-sialate synthase, effect of *N*-acetylneuraminic acid analogs on, 327

Cyclomaltohexaose, hexahydrate, dynamics of, by ^{1}H solid-state n.m.r. spectroscopy, 29

Dermatan sulfate in admixture with heparin, n.m.r. spectra of, 301

1-(3,4-Di-*O*-acetyl-2-deoxy-2-hydroxyimino-α- and -β-D-*erythro*-pentopyranosyl)pyrazole, chemical modification at C-2 and C-3 of, 337

Dynamics of cyclomaltohexaose (alpha cyclodextrin)·6 H_2O by ^{1}H solid-state n.m.r. spectroscopy, 29

Ecklonia kurome, fucose-containing sulfated polysaccharides from, 119

Elucidation of the structure of the *Pasteurella haemolytica* serotype T10 lipopolysaccharide O-antigen by n.m.r. spectroscopy, 275

Enterobacter cloacae strain N.C.T.C. 11579 (serogroup O10), structure of the O-specific polysaccharide from, 287

r-2-Ethyl-5-methyl-*c*- and -*t*-5-(2-methylbenzyloxy)-1,3-dioxane, sodium-ion-induced ^{1}H-n.m.r. shifts in the assignment of structure to, 321

Fractionation and antitumor activity of the water-insoluble residue of *Agaricus blazei* fruiting bodies, 267

Fucose-containing sulfated polysaccharides from *E. kurome,* 119

Galactoglucomannan from the O-15 reference strain (C.D.C. 4523-60) of *Serratia marcescens,* structural studies of an acidic, 295

L-Galactopyranose, 3-*O*-(α-D-glucopyranosyluronic acid)-, an aldobiuronic acid isolated from the unicellular red alga *Rhodella reticulata,* 313

β-D-Galactosidases from bovine testes and *E. coli*, synthesis of β-D-Gal*p*-(1→3)-D-GalNAc by the sequential use of, 217
β-D-Gal*p*-(1→3)-D-GalNAc, synthesis of, by the sequential use of β-D-galactosidases from bovine testes and *E. coli*, 217
α-D-Gal*p*-(1→3)-β-D-Man*p*NAc-(1→4)-β-D-Glc*p*-(1→4)-α-D-Glc*p*O$(CH_2)_8CO_2Me$, synthesis of, 177
D-Glucansucrases with deoxy and chloro derivatives of sucrose modified at carbon atoms 3, 4, and 6, synthesis of 4,6-dideoxysucrose and inhibition studies of *Leuconostoc* and *Streptococcus*, 87
Glycoconjugates, modification of sialyl residues of, 255
Glycoproteins, synthesis of four structural elements of xylose-containing carbohydrate chains from *N*-, 51
Glycosaminoglycans, n.m.r. spectra of, 301
Glycosides, formation catalyzed by hydrogen fluoride of, 177
Glycosylated flavonoid (7-*O*-α-L-rhamnopyranosyl-4′-*O*-rutinosylapigenin) in the exudate from germinating seeds of *Sesbania rostrata*, 241

Heparin in admixture with dermatan sulfate, n.m.r. spectra of, 295
Hydrogen fluoride, formation of glycosides catalyzed by, 177
1-*C*-(2-Hydroxyaryl)alditol derivatives, a highly stereoselective route to, 207

Influence of side-chain modifications on the solution behavior of the capsular polysaccharide from *Rhizobium trifolii* strain TA-1, 141
Inhibition studies of *Leuconostoc* and *Steptococcus* D-glucansucrases with deoxy and chloro derivatives of sucrose, modified at carbon atoms 3, 4, and 6, synthesis of 4,6-dideoxysucrose and, 87

Lactonization, simple isolation of α-D-Neu*p*5Ac-(2→3)-β-D-Gal*p*-(1→4)-D-Glc*p*-($G_{M3}OS$) from bovine colostrum through, C1
Lipopolysaccharide O-antigen from *Pasteurella haemolytica* serotype T10 cells, elucidation by n.m.r. spectroscopy of the structure of the, 275

α-D-Mannopyranoside, *O*-α-D-mannopyranosyl-(1→2)-methyl crystal and molecular structure of, 167
O-α-D-Mannopyranosyl-(1→2)-α-D-mannopyranoside, methyl crystal and molecular structure of, 167
Methyl-*O*-α-D-mannopyranosyl-(1→2)-α-D-mannopyranoside, crystal and molecular structure of, 167
Modifications on the solution behavior of the capsular polysaccharide from *Rhizobium trifolii* strain TA-1, 141

Neuraminic acid, *N*-acetyl-, synthesis of analogs of, 327
1-Nitroalditols, 2-anhydro-1-deoxy, crystal structures of, 1
N.m.r. assignments for structural elements of xylose-containing *N*-linked oligosaccharides using 1D- and 2D-n.m.r. experiments, ^1H- and ^{13}C-, 39
N.m.r. shifts in the assignment of structure to *r*-2-ethyl-5-methyl-*c*- and -*t*-5-(2-methylbenzyloxy)-1,3-dioxane, sodium-ion-induced ^1H-, 321
N.m.r. structure determination of 3-*O*-(α-D-glucopyranosyluronic acid)-L-galactopyranose, an aldobiuronic acid isolated from the unicellular red alga *Rhodella reticulata*, 313
Nucleophilic displacement of the triflate group in benzyl 3-*O*-benzyl-4,6-*O*-benzylidene-2-*O*-trifluoromethanesulfonyl-α-D-mannopyranoside, 156
C-Nucleosides, an efficient and regioselective synthesis of acyclic, from mesoionic compounds, C7

Oligosaccharides, H- and ^{13}C-n.m.r. assignments for structural elements of xylose-containing *N*-linked, using 1D- and 2D-n.m.r. experiments, 39

Pasteurella haemolytica serotype T10 lipopolysaccharide O-antigen, elucidation by n.m.r. spectroscopy of the structure of the, 275
Polysaccharide from *Enterobacter cloacae* strain N.C.T.C. 11579 (serogroup O10), structure of the O-specific, 287
Polysaccharide from *Rhizobium trifolii* strain TA-1, the influence of side-chain modifications on the solution behavior of the capsular, 141
Pyrazole, chemical modification at C-2 and C-3 of 1-(3,4-di-*O*-acetyl-2-deoxy-2-hydroxyimino-α- and -β-D-*erythro*-pentopyranosyl)-, 337

7-*O*-α-L-Rhamnopyranosyl-4′-*O*-rutinosylapigenin in the exudate from germinating seeds of *Sesbania rostrata*, 241

Separation of the components of starch based on the adsorption of the 1-butanol–amylose complex during column chromatography on cellulose, 131

L-Serine, *O*-(*N*-acetyl-α-D-neuraminyl)-(2→3)-*O*-β-D-galactopyranosyl-(1→3)-*O*-[(*N*-acetyl-α-D-neuraminyl)-(2→6)-*O*-(2-acetamido-2-deoxy-α-D-galactopyranosyl)-(1→3)-, synthesis of a fully protected derivative of, 107
L-Serine, *O*-glycosylated, synthesis of a mucin type of, 95
Serratia marcescens, structural studies of an acidic galactoglucomannan from the O-15 reference strain (C.D.C. 4523-60) of, 295
Sesbania rostrata, 7-*O*-α-L-rhamnopyranosyl-4′-*O*-rutinosylapigenin in the exudate from germinating seeds of, 241
Sialyl residues of glycoconjugates, modification of, 255
Simple isolation of α-D-Neu*p*5Ac-(2→3)-β-D-Gal*p*-(1→4)-D-Glc*p*(G_{M3}OS) from bovine colostrum through lactonization, C1
Sodium-ion-induced ^{1}H-n.m.r. shifts in the assignment of structure to *r*-2-ethyl-5-methyl-*c*- and -*t*-5-(2-methylbenzyloxy)-1,3-dioxane, 321
Sorbistin analogues, synthesis of, 225
Starch components, separation of, based on the adsorption of the 1-butanol–amylose complex during column chromatography on cellulose, 131
Stereoselective route to 1-*C*-(2-hydroxyaryl)alditol derivatives, a highly, 207
Streptococcus pneumoniae type 9V, synthesis of tetrasaccharide component of repeating unit of capsular polysaccharide of, 177
Structural studies of an acidic galactoglucomannan from the O-15 reference strain (C.D.C. 4523-60) of *Serratia marcescens,* 295
Structure of the O-specific polysaccharide from *Enterobacter cloacae* strain N.C.T.C. 11579 (serogroup O10), 287
Structures and amounts of branched molecules in rice amyloses, 163
Sucrose modified at carbon atoms 3, 4, and 6, synthesis of 4,6-dideoxysucrose and inhibition studies of *Leuconostoc* and *Streptococcus* D-glucansucrases with deoxy and chloro derivatives of, 87
Sulfated polysaccharides, fucose-containing, from *E. kurome,* 119
Syntheses of *O*-(2-acetamido-2-deoxy-β-D-glucopyranosyl)-(1→6 and 4)-*N*-acetylmuramoyl-L-alanyl-D-isoglutamine, 77
Synthesis and reactions of *O*-acetylated benzyl α-glycosides of 6-*O*-(2-acetamido-2-deoxy-β-D-glucopyranosyl)-*N*-acetylmuramoyl-L-alanyl-D-isoglutamine esters, 63
Synthesis of a fully protected derivative of *O*-(*N*-acetyl-α-D-neuraminyl)-(2→3)-*O*-β-D-galactopyranosyl-(1→3)-*O*-[(*N*-acetyl-α-D-neuraminyl)-(2→6)]-*O*-(2-acetamido-2-deoxy-α-D-galactopyranosyl)-(1→3)-L-serine, 107
Synthesis of a mucin type of *O*-glycosylated amino acid, β-Gal-(1→3)-[α-Neu5Ac-(2→6)]-α-GalNAc-(1→3)-Ser, 95
Synthesis of acyclic *C*-nucleosides from mesoionic compounds, an efficient and regioselective, C7
Synthesis of 4,6-dideoxysucrose and inhibition studies of *Leuconostoc* and *Streptococcus* D-glucansucrases with deoxy and chloro derivatives of sucrose modified at carbon atoms 3, 4, and 6, 87
Synthesis of four structural elements of xylose-containing carbohydrate chains from *N*-glycoproteins, 39
Synthesis of β-D-Gal*p*-(1→3)-D-GalNAc by the sequential use of β-D-galactosidases from bovine testes and *Escherichia coli,* 217
Synthesis of sorbistin analogues, 225

2-*O*-Trifluoromethanesulfonyl-α-D-mannopyranoside, nucleophilic displacement of the triflate group in benzyl 3-*O*-benzyl-4,6-*O*-benzylidene-, 156

Xylose-containing carbohydrate chains from *N*-glycoproteins, synthesis of four structural elements of, 51
Xylose-containing *N*-linked oligosaccharides, n.m.r. assignments for structural elements of, using 1D- and 2D-n.m.r. experiments, 39